CELL TRANSPLANTATION

LIST OF CONTENTS
AUTHOR INDEX
KEYWORD INDEX

Volume 1, 1992

PERGAMON PRESS
New York ▪ Oxford ▪ Seoul ▪ Tokyo

CELL TRANSPLANTATION

Editor-in-Chief

Paul R. Sanberg
Division of Neurosurgery
Department of Surgery
University of South Florida College of Medicine
Tampa, FL 33612, USA

Editorial Board

Tissue Engineering and Bioartificial Organs

Editor:
Patrick Aebischer
Artificial Organs Lab
Brown University
171 Meeting St., 3rd Fl., Rm. 393
Box G-B393
Providence, RI 02912

Toshihiro Akaike
Tokyo Institute of Technology
Tokyo, Japan

Charles Baquey
Université de Bordeaux II
Bordeaux, France

Tom Chang
McGill University
Montreal, Canada

Clark Colton
Massachusetts Institute of Technology
Cambridge, MA

Jeffrey Hubbell
University of Texas
Austin, TX

Robert S. Langer
Massachusetts Institute of Technology
Cambridge, MA

Michael Lysaght
CytoTherapeutics
Providence, RI

Takeisha Matsuda
National Cardiovascular Center
Osaka, Japan

Gerard Reach
Hotel-Dieu
Paris, France

Michael Sefton
University of Toronto
Toronto, Canada

Christian Wildevuur
University of Groningen
Groningen, The Netherlands

Martin Yarmush
Rutgers University
New Brunswick, NJ

Islets and Other Endocrines

Editor:
David W. Scharp
Dept. of Surgery
Washington University
Box 8109, Room 3326
4939 Audobon St.
St. Louis, MO 63110

Fritz H. Bach
University of Minnesota
Minneapolis, MN

Clyde F. Barker
University of Pennsylvania
Philadelphia, PA

Konrad Federlin
Meidzinische Univ. Poliklinik
Giessen, Germany

Carl-Gustaf Groth
Karolinska Institute
Stockholm, Sweden

Orion D. Hegre
CytoTherapeutics
Providence, RI

Paul E. Lacy
Washington University
St. Louis, MO

Kevin Lafferty
Barbara Davis Center for Childhood Diabetes
Denver, CO

Thomas E. Mandel
The Walter & Elizabeth Hall Institute of Medical Research
Melbourne, Australia

Peter J. Morris
University of Oxford
Oxford, England

Guido Pozza
Ospedale San Raffaele
Milan, Italy

Ray V. Rajotte
University of Alberta
Edmonton, Canada

Camillo Ricordi
University of Pittsburgh
Pittsburgh, PA

David E.R. Sutherland
University of Minnesota
Minneapolis, MN

Gordon C. Weir
Joslin Diabetes Center
Boston, MA

Yohichi Yasunami
Fukuoka University School of Medicine
Fukuoka, Japan

Neuroscience

Editor:
Olle Lindvall
Restorative Neurology Unit
University of Lund
Biskopsgatan 5, S-223
62 Lund, Sweden

Anders Bjorklund
University of Lund
Lund, Sweden

Stephen B. Dunnett
University of Cambridge
Cambridge, England

William Freed
St. Elizabeth's Hospital
Washington, DC

Thomas Freeman
University of South Florida
Tampa, FL

Fred H. Gage
University of California
San Diego, CA

Barry J. Hoffer
University of Colorado
Denver, CO

Ole Isacson
Harvard University
Cambridge, MA

Jeffrey H. Kordower
Rush Presbyterian Hospital
Chicago, IL

Lars Olson
Karolinska Institute
Stockholm, Sweden

Jacqueline Sagen
University of Illinois
Chicago, IL

Hematopoietic System

Editor:
Robert Peter Gale
UCLA-CHS
10833 Le Conte Ave.
Los Angeles, CA 90024

Edward Ball
University of Pittsburgh
Pittsburgh, PA

Connie Eaves
University of British Columbia
Vancouver, Canada

Myrtle Gordon
Institute of Cancer Research
London, England

Armand Keating
University of Toronto
Toronto, Canada

Makio Ogawa
VA Medical Center
Charleston, SC

Jack Singer
VA Hospital
Seattle, WA

Nydia G. Testa
Christie Hospital and Holt Radium Institute
Manchester, England

Blood Vessels, Skin, and Other Tissues

Editor:
Bruce E. Jarrell
Dept. of Surgery
College of Medicine
University of Arizona
Tucson, AZ 85723

Linda G. Cima
Massachusetts Institute of Technology
Cambridge, MA

Malcom Herring
University of Indiana
Indianapolis, IN

Hugo Jauregui
Brown University
Providence, RI

Richard Kempczinski
University of Cincinnati
Cincinnati, OH

Bauer Sumpio
Yale University
New Haven, CT

Victor W.M. van Hinsberg
IVVO-TNO Gaubius Institute
Leiden, The Netherlands

Pauline Van Wachem
University of Groningen
Groningen, The Netherlands

Bone, Cartilage, and Muscle

Editor:
A. Hari Reddi
Dept. of Orthopaedic Surgery
Johns Hopkins Univ. Medical School
Baltimore, MD 21205

Eugene Bell
Organogenesis, Inc.
Cambridge, MA

Arnold I. Caplan
Case Western Reserve University
Cleveland, OH

Bruce M. Carlson
University of Michigan
Ann Arbor, MI

Alexander Friedenstein
Moscow, Russia

George Karpati
McGill University
Montreal, Canada

Peter Law
Cell Therapy Research Foundation
Memphis, TN

Kiero Ono
Osaka University
Osaka, Japan

Jacques P. Tremblay
Laval University
Quebec, Canada

Editorial Office: Cell Transplantation, Division of Neurosurgery, Department of Surgery, University of South Florida College of Medicine, 12901 Bruce B. Downs Blvd., MDC 16, Tampa, FL 33612, USA.

Production Office: Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA.

Publishing, Subscription, and Advertising Offices: Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA, INTERNET "PPI@PERGAMON.COM"; and Pergamon Press Ltd., Headington Hill Hall, Oxford OX3 0BW, England.

Published Bimonthly. *Annual Institutional Subscription Rate* (1993): £172.00 ($327.00). *Personal Subscription Rate* (1993): £48.00 ($91.00). Sterling prices are definitive. US dollar prices are quoted for convenience only, and are subject to exchange rate fluctuation. Prices include postage and insurance and are subject to change without notice. Back issues of all previously published volumes, in both hard copy and on microform, are available direct from Pergamon Press. Subscription rates for Japan are available on request.

Cell Transplantation, Vol. 1, pp. III–VIII, 1992
Printed in the USA. All rights reserved.

0963-6897/92 $5.00 + .00
Copyright © 1992 Pergamon Press Ltd.

VOLUME 1, NUMBER 1 1992

CONTENTS

EDITORIAL

Cell Transplantation: Looking to the Future
Paul R. Sanberg 1

ORIGINAL CONTRIBUTIONS

Human Cortical Neuronal Cell Line (HCN-1): Further In Vitro Characterization and Suitability for Brain Transplantation
Maciej Poltorak, Mitsuo Isono, William J. Freed, Gabriele V. Ronnett, and Solomon H. Snyder 3

Dystrophin Cytochemistry in *mdx* Mouse Muscles Injected with Labeled Normal Myoblasts
Ming Chen, Hua-Ju Li, Qiuwen Fang, Tena G. Goodwin, J. Ann Florendo, and Peter K. Law 17

Osteogenesis in Marrow-Derived Mesenchymal Cell Porous Ceramic Composites Transplanted Subcutaneously: Effect of Fibronectin and Laminin on Cell Retention and Rate of Osteogenic Expression
James E. Dennis, Stephen E. Haynesworth, Randell G. Young, and Arnold I. Caplan 23

Short-Term Immunosuppression Enhances Long-Term Survival of Bovine Chromaffin Cell Xenografts in Rat CNS
John D. Ortega, Jacqueline Sagen, and George D. Pappas 33

Tissue Plasminogen Activator Expression in Endothelial Cells Exposed to Cyclic Strain In Vitro
Toshiaki Iba and Bauer E. Sumpio 43

Entrapment of Cultured Pancreas Islets in Three-Dimensional Collagen Matrices
Seh-Huang Chao, Madhusudan V. Peshwa, David E.R. Sutherland, and Wei-Shou Hu 51

Influence of Different Substrates in Detoxification Activity of Adult Rat Hepatocytes in Long-Term Culture: Implications for Transplantation
Sharda Naik, Henry Santangini, Kathryn Gann, and Hugo Jauregui 61

Comparison of Fetal Rabbit Brain Xenografts to Three Different Strains of Athymic Nude Rats: Electrophysiological and Immunohistochemical Studies of Intraocular Grafts
Michael Hall, Yun Wang, Ann-Charlotte Granholm, James O. Stevens, David Young, and Barry J. Hoffer 71

BRIEF COMMUNICATION

Reversal of Experimental Diabetes by Injection of Syngeneic Islets into Peripheral Veins
Alberto Hayek and Gillian M. Beattie 83

ANNOUNCEMENTS I

VOLUME 1, NUMBERS 2/3 1992

CONTENTS

EDITORIAL

Cell Transplantation: A Forum for Discussion
Paul R. Sanberg 87

PROGRAM AND ABSTRACTS OF THE FIRST INTERNATIONAL CONGRESS OF THE CELL TRANSPLANT SOCIETY 89

ORIGINAL CONTRIBUTIONS

Feasibility, Safety, and Efficacy of Myoblast Transfer Therapy on Duchenne Muscular Dystrophy Boys
Peter K. Law, Tena G. Goodwin, Qiuwen Fang, Vijaya Duggirala, Charles Larkin, J. Ann Florendo, Dana S. Kirby, Mary Beth Deering, H.J. Li, Ming Chen, T.J. Yoo, Jennifer Cornett, Lawrence M. Li, Afshin Shirzad, Thomas Quinley, and Randall L. Holcomb 235

The Effect of Transplantation Site and Islet Mass on Long-Term Survival and Metabolic and Hormonal Function of Canine Purified Islet Autografts
David W. Scharp, Piero Marchetti, Carol Swanson, Melisa Newton, Christopher S. McCullough, and Barbara Olack 245

Polymer-Encapsulated PC12 Cells: Long-Term Survival and Associated Reduction in Lesion-Induced Rotational Behavior
Patrick A. Tresco, Shelley R. Winn, Sanda Tan, Christine B. Jaeger, Lloyd A. Greene, and Patrick Aebischer 255

REVIEW ARTICLE

A Critical Reappraisal of Gastrointestinal Complications of Allogeneic Bone Marrow Transplantation
Gary J. Schiller and Robert Peter Gale 265

SECTIONAL ABSTRACT LISTING OF THE FIRST INTERNATIONAL CONGRESS OF THE CELL TRANSPLANT SOCIETY I

ANNOUNCEMENTS III

VOLUME 1, NUMBER 4 1992

CONTENTS

EDITORIAL

Peer Review for Fetal Tissue Transplantation Research
Thomas B. Freeman and Paul R. Sanberg 271

ORIGINAL CONTRIBUTIONS

Repeated Transplantation of Microencapsulated Hepatocytes for Sustained Correction of Hyperbilirubinemia in Gunn Rats
Vivek Dixit, Marika Arthur, and Gary Gitnick 275

Long-Term Functional Recovery of Hepatocytes After Cryopreservation in a Three-Dimensional Culture Configuration
Inne H.M. Borel Rinkes, Mehmet Toner, Sean J. Sheehan, Ronald G. Tompkins, and Martin L. Yarmush 281

A Porcine Model for Adipose Tissue-Derived Endothelial Cell Transplantation
Carlton Young, Bruce E. Jarrell, James B. Hoying, and Stuart K. Williams 293

Factors Affecting In Vitro Growth of Harvested Enterocytes
M. Santos, B.T. Nguyen, and J.S. Thompson 299

A 9L Gliosarcoma Transplantation Model for Studying Adoptive Immunotherapy into the Brains of Conscious Rats
Monika Fleshner, Linda R. Watkins, Joan M. Redd, Carol A. Kruse, and Donald Bellgrau 307

A Primate Model of Huntington's Disease: Functional Neural Transplantation and CT-Guided Stereotactic Procedures
James M. Schumacher, Philippe Hantraye, Anna-Lisa Brownell, Danielle Riche, Bertha K. Madras, Paula D. Davenport, Mariannick Maziere, David R. Elmaleh, Gordon L. Brownell, and Ole Isacson 313

ANNOUNCEMENT I

NEW PATENTS III

VOLUME 1, NUMBER 5 1992

CONTENTS

REVIEW ARTICLE

Assessment of Artificial Liver Support Technology
Martin L. Yarmush, James C.Y. Dunn, and Ronald G. Tompkins 323

ORIGINAL CONTRIBUTIONS

Autotransplants in Advanced Non-Hodgkin Lymphoma: Are They Effective?
Antonella Surbone, James O. Armitage, and Robert Peter Gale 343

Embedded Adrenal Cells Graft Reduced Local and Early Nonspecific Inflammatory Phenomena Which Follow Agarose Beads Implantation
Ch. Cadic, S. Vitiello, H. Gin, P.J. Neveu, and B. Dupuy 349

Endothelial Cell Senescence Inhibits Unidirectional Endothelialization In Vitro
Satoshi Niu and Takehisa Matsuda 355

COMMENTARY

Epidermal Wound Healing: The Clinical Implications of a Simple Mathematical Model
Jonathan A. Sherratt and J.D. Murray 365

BOOK REVIEW

Pancreatic Islet Cell Transplantation
Victor D. Bowers 373

ANNOUNCEMENT I

NEW PATENTS III

VOLUME 1, NUMBER 6 1992

CONTENTS

ORIGINAL CONTRIBUTIONS

Quantitative Analysis of Unidirectional 2-D Tissue Formation of Endothelial Cells
Satoshi Niu and Takehisa Matsuda 375

Cell Transplantation for Myocardial Repair: An Experimental Approach
Daniel Marelli, Carolyne Desrosiers, Mohamed El-Alfy, Race L. Kao, and Ray C.-J. Chiu 383

Hepatocyte Immobilization on PHEMA Microcarriers and Its Biologically Modified Forms
Vivek Dixit, Erhan Piskin, Marika Arthur, Adil Denizli, Suleyman A. Tuncel, Emir Denkbas, and Gary Gitnick 391

REVIEW ARTICLE

Behavioral Effects of Neural Transplantation
Dwaine F. Emerich, Michael Ragozzino, Michael N. Lehman, and Paul R. Sanberg 401

LIST OF CONTENTS, AUTHOR INDEX, AND KEYWORD INDEX, VOLUME 1, 1992 I

AUTHOR INDEX, VOLUME 1, 1992

Aebischer, P., 255
Armitage, J. O., 343
Arthur, M., 275, 391

Beattie, G. M., 83
Bellgrau, D., 307
Borel Rinkes, I. H. M., 281
Bowers, V. D., 373
Brownell, A.-L., 313
Brownell, G. L., 313

Cadic, Ch., 349
Caplan, A. I., 23
Chao, S.-H., 51
Chen, M., 17, 235
Chiu, R. C.-J., 383
Cornett, J., 235

Davenport, P. D., 313
Deering, M. B., 235
Denizli, A., 391
Denkbas, E., 391
Dennis, J. E., 23
Desrosiers, C., 383
Dixit, V., 275, 391
Duggirala, V., 235
Dunn, J. C. Y., 323
Dupuy, B., 349

El-Alfy, M., 383
Elmaleh, D. R., 313
Emerich, D. F., 401

Fang, Q., 17, 235
Fleshner, M., 307
Florendo, J. A., 17, 235
Freed, W. J., 3
Freeman, T. B., 271

Gale, R. P., 265, 343
Gann, K., 61
Gin, H., 349
Gitnick, G., 275, 391
Goodwin, T. G., 17, 235
Granholm, A.-C., 71
Greene, L. A., 255

Hall, M., 71
Hantraye, P., 313
Hayek, A., 83
Haynesworth, S. E., 23
Hoffer, B. J., 71
Holcomb, R. L., 235
Hoying, J. B., 293
Hu, W.-S., 51

Iba, T., 43
Isacson, O., 313
Isono, M., 3

Jaeger, C. B., 255
Jarrell, B. E., 293
Jauregui, H., 61

Kao, R. L., 383
Kirby, D. S., 235
Kruse, C. A., 307

Larkin, C., 235
Law, P. K., 17, 235
Lehman, M. N., 401
Li, H. J., 235
Li, H.-J., 17
Li, L. M., 235

Madras, B. K., 313
Marchetti, P., 245
Marelli, D., 383
Matsuda, T., 355, 375
Maziere, M., 313
McCullough, C. S., 245
Murray, J. D., 365

Naik, S., 61
Neveu, P. J., 349
Newton, M., 245
Nguyen, B. T., 299
Niu, S., 355, 375

Olack, B., 245
Ortega, J. D., 33

Pappas, G. D., 33
Peshwa, M. V., 51
Piskin, E., 391
Poltorak, M., 3

Quinley, T., 235

Ragozzino, M., 401
Redd, J. M., 307
Riche, D., 313
Ronnett, G. V., 3

Sagen, J., 33
Sanberg, P. R., 1, 87, 271, 401
Santangini, H., 61
Santos, M., 299
Scharp, D. W., 245
Schiller, G. J., 265
Schumacher, J. M., 313
Sheehan, S. J., 281
Sherratt, J. A., 365
Shirzad, A., 235
Snyder, S. H., 3
Stevens, J. O., 71
Sumpio, B. E., 43
Surbone, A., 343
Sutherland, D. E. R., 51
Swanson, C., 245

Tan, S., 255
Thompson, J. S., 299
Tompkins, R. G., 281, 323
Toner, M., 281
Tresco, P. A., 255
Tuncel, S. A., 391

Vitiello, S., 349

Wang, Y., 71
Watkins, L. R., 307
Williams, S. K., 293
Winn, S. R., 255

Yarmush, M. L., 323
Yoo, T. J., 235
Young, C., 293
Young, D., 71
Young, R. G., 23

KEYWORD INDEX, VOLUME 1, 1992

Adipose tissue, 293
Adrenal medulla, 33
Agarose beads, 349
Allogeneic tumoricidal cytotoxic T lymphocytes, 307
Anastomotic endothelialization, 355
Anastomotic site, 375
Animal model, 313
Animal models, 401
Artificial liver, 323
Athymic rat, 71
Autotransplant, 343

Basement membrane components, 299
Beta cells, 51
Bone marrow, 23, 343
Bone marrow transplantation, 265
Brain tumor, 307

Canine autografts, 245
Ceramics, 23
Chemotherapy, 343
Collagen, 51
Corticosteroids, 349
CT-guided stereotaxy, 313
Culture, 51
Cyclic strain, 43
Cyclosporine A, 33

Diabetes, 83
Diazepam metabolism, 61
Dopamine terminals, 313
Duchenne muscular dystrophy, 235
Dystrophin expression, 17

Embedded adrenal cells, 349
Endothelial cells, 43
Endothelialization, 375
Endothelium, 293, 355, 375
Enterocytes, 299
Entrapment, 51
Epidermal migration, 365

Fetal neural tissue, 401
Fetal tissue transplantation, 313
Fibronectin, 3
Fibrosis, 349
Fluoro-gold labeling, 17

Glucose utilization, 313
Graft-versus-host disease, 265
Gunn rats, 275

Hepatocyte, 275, 391
Hepatocyte attachment, 61
Hepatocyte transplantation, 323
Huntington's disease, 313

Immobilization, 391
Immuno-competence, 71
Immunotherapy, 307
Implantation, 349
In vitro model, 375
Infection, 265
Inflammation, 349
Intravenous, 83
Islet of Langerhans, 51
Islet, 83, 245

Lectin, 61
Liver support device, 323
Lymphoma, 343

Mathematical models, 365
Matrix, 23
Metabolism, 245
Microcarriers, 391
Microencapsulation, 275
Migration, 355
Mitotic regulation, 365
Mucosal toxicity, 265
Myoblast transfer, 17, 235
Myocardial regeneration, 383

Neo-myocardium, 383
Neural transplantation, 71
Neural transplants, 33, 401
Neuronal cell line, 3
9L gliosarcoma, 307
Nucleus counterstain, 17

Osteogenesis, 23
Ovine, 293

Pancreas, 51
PC12 cells, 255
Periaqueductal gray, 33
Phase II clinical trial, 235
PHEMA, 391
Polymer encapsulation, 255
Positron emission tomography, 313

Rat brain, 3

Satellite cells, 383
Senescence, 355
6-Hydroxydopamine microdialysis, 255
Skeletal muscle, 383
Substrates, 61

Tissue type plasminogen activator, 43
Transplant site, 245
Transplantation, 3, 83, 275, 299

Vascular graft, 293

Wound healing, 365

Xenografts, 71